Guest editorial: Progress on computational techniques for electromagnetic fields and applications

It is our great pleasure to introduce this special issue entitled Progress on Computational Techniques for Electromagnetic Fields and Applications, containing extended selected papers originally presented at the International Conference on Electromagnetic Field Problems and Applications (ICEF 2021), which was held in Tianjin, China, 29–31 October 2021. ICEF, which started in 1988, is a conference series and has become now a well-known international forum for the presentation and discussion of the latest developments in electromagnetic field problems and their engineering applications.

Because of COVID-19, ICEF 2021 was for the first time held as a virtual conference. For ICEF 2021, authors from 12 countries and regions submitted their original contributions in a short version, covering static/quasi-static fields, wave propagation, scattering and diffraction, computational and numerical techniques, optimization methods in EM designs, coupled problems, material modeling, inverse problems in applied electromagnetics, nonlinear electromagnetics, software methodology, electric machines and drives, electromagnetic devices and applications, EMC and EM metrology, non-destructive electromagnetic inspection and applications, micro/nano electro-mechanical systems, electromagnetics in plasma, nano-electromagnetics and applications, photonics, metamaterials and metasurfaces, biological electromagnetics and applications, applied superconductivity, wireless power transmission and harvesting, interconnect and packaging, benchmarking (TEAM problems), electromagnetic education, methods and tools. After a careful review process, 146 contributions were accepted for oral presentations at the conference. The conference was composed of a plenary and 12 oral sessions.

After the conference, 33 extended papers were recommended to this special issue. After a second round of double blind peer review process, 26 papers were ultimately accepted for publications. We would like to take this opportunity to express our gratitude to the reviewers for their invaluable work. Finally, we hope that this special issue will stimulate researchers worldwide working in the area of computational electromagnetics.

Shiyou Yang
Department of Electrical Engineering, Zhejiang University, Hangzhou, China
Jan Sykulski
Department of Electronics and Computer Science, Southampton University, Southampton, UK
Yang Qingxin
Tianjin Key Laboratory of Advanced Electrical Engineering and Energy Technology, Tianjin Polytechnic University, Tianjin, China, and
Xiang Cui
State Key Laboratory for Alternate Electrical Power System with Renewable Energy Sources, Research Center for Electromagnetism and Superconduction, Beijing, China

COMPEL - The international journal for computation and mathematics in electrical and electronic engineering
Vol. 42 No. 1, 2023
p. 1

0332-1649
DOI 10.1108/COMPEL-01-2023-604